Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw Desc | Image | KWIC

☐ 29. Document ID: JP 2001275668 A

L1: Entry 29 of 34 File: JPAB Oct 9, 2001

PUB-NO: JP02001275668A
DOCUMENT-IDENTIFIER: JP 2001275668 A
TITLE: METHOD FOR CREATING BUD OF MONOCOTYLEDON INTO WHICH OBJECTIVE GENE WAS TRANSFERRED

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw Desc | Clip Img | Image | KWIC

☐ 30. Document ID: JP 2001275667 A

L1: Entry 30 of 34 File: JPAB Oct 9, 2001

PUB-NO: JP02001275667A
DOCUMENT-IDENTIFIER: JP 2001275667 A
TITLE: METHOD OF ENHANCING GENE-TRANSFERRING EFFICIENCY FOR MONOCOTYLEDON

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw Desc | Image | KWIC

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Term	Documents
CYTOKININ.DWPI,EPAB,JPAB,USPT,PGPB.	1492
CYTOKININS.DWPI,EPAB,JPAB,USPT,PGPB.	957
IPT.DWPI,EPAB,JPAB,USPT,PGPB.	582
IPTS.DWPI,EPAB,JPAB,USPT,PGPB.	40
ISOPENTENYL.DWPI,EPAB,JPAB,USPT,PGPB.	803
ISOPENTENYLS	0
TRANSFERASE.DWPI,EPAB,JPAB,USPT,PGPB.	16920
TRANSFERASES.DWPI,EPAB,JPAB,USPT,PGPB.	1685
(((ISOPENTENYL ADJ TRANSFERASE) OR IPT) SAME CYTOKININ).USPT,PGPB,JPAB,EPAB,DWPI.	34
(CYTOKININ SAME (IPT OR ISOPENTENYL TRANSFERASE)).USPT,PGPB,JPAB,EPAB,DWPI.	34

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Search Results - Record(s) 31 through 34 of 34 returned.

☐ 31. Document ID: JP 2000083680 A

L1: Entry 31 of 34 File: JPAB Mar 28, 2000

PUB-NO: JP02000083680A
DOCUMENT-IDENTIFIER: JP 2000083680 A
TITLE: INTRODUCTION OF GENE INTO PLANT UTILIZING ADVENTITIOUS BUD REDIFFERENTIATION GENE PUT UNDER CONTROL DUE TO PHOTOINDUCTION TYPE PROMOTER AS SELECTION MARKER GENE AND VECTOR FOR TRANSDUCTION OF GENE INTO PLANT USED THEREFOR

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 32. Document ID: WO 9849888 A1

L1: Entry 32 of 34 File: EPAB Nov 12, 1998

PUB-NO: WO009849888A1
DOCUMENT-IDENTIFIER: WO 9849888 A1
TITLE: TRANSGENIC SEEDLESS FRUIT AND METHODS

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 33. Document ID: JP 2000083680 A, CA 2275511 A1, US 6294714 B1

L1: Entry 33 of 34 File: DWPI Mar 28, 2000

DERWENT-ACC-NO: 2000-353339
DERWENT-WEEK: 200158

TITLE: Introduction of a gene into a plant cell - using redifferentiation gene of adventitious bud under the control of a photo-inductive promoter as a selection marker gene

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 34. Document ID: US 6326192 B1, WO 9742334 A1, AU 9726520 A, JP 10327860 A, EP 911412 A1, CN 1225133 A, KR 2000010875 A, AU 728915 B, NZ 333259 A

L1: Entry 34 of 34 File: DWPI Dec 4, 2001

DERWENT-ACC-NO: 1997-558990
DERWENT-WEEK: 200203

TITLE: Vector for insertion of target and marker genes into plants - allows optional deletion of the marker gene before or after expression of the target gene

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Clip Img | Image

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Term	Documents
CYTOKININ.DWPI,EPAB,JPAB,USPT,PGPB.	1492
CYTOKININS.DWPI,EPAB,JPAB,USPT,PGPB.	957
IPT.DWPI,EPAB,JPAB,USPT,PGPB.	582
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ISOPENTENYLS	0
TRANSFERASE.DWPI,EPAB,JPAB,USPT,PGPB.	16920
TRANSFERASES.DWPI,EPAB,JPAB,USPT,PGPB.	1685
(((ISOPENTENYL ADJ TRANSFERASE) OR IPT) SAME CYTOKININ).USPT,PGPB,JPAB,EPAB,DWPI.	34
(CYTOKININ SAME (IPT OR ISOPENTENYL TRANSFERASE)).USPT,PGPB,JPAB,EPAB,DWPI.	34

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L1: Entry 32 of 34 File: EPAB Nov 12, 1998

DOCUMENT-IDENTIFIER: WO 9849888 A1
TITLE: TRANSGENIC SEEDLESS FRUIT AND METHODS

Abstract (1):
The present invention provides methods and DNA constructs for the genetic engineering of plant cells to produce plants which produce substantially seedless fruit in the absence of exogenous growth factors (auxins or cytokinins) and in the absence of pollination. The substantially seedless fruits produced by the methods described herein are about the size of wildtype seeded fruit (or somewhat larger) and these fruits are equal to or superior to the wildtype seeded fruit with respect to solid content and flavor. The seedless fruits of the present invention are produced in transgenic plants which contain and express auxin or cytokinin biosynthetic genes, e.g., tryptophan oxygenase or isopentenyl transferase coding sequences expressed under the regulatory control of sequences directing preferential or tissue specific expression of a downstream gene in the ovaries or developing fruit.

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L1: Entry 4 of 34 File: USPT Mar 19, 2002

DOCUMENT-IDENTIFIER: US 6359197 B1
TITLE: Transgenic plants with altered senescence characteristics

Detailed Description Paragraph Right (25):
In one embodiment of the invention, the foreign gene sequence encodes an enzyme catalyzing biosynthesis of a plant hormone, preferably a cytokinin. Most preferably, the enzyme is IPT (isopentenyl transferase).

Detailed Description Paragraph Right (46):
We mapped the start site of transcription of SAG12-1 (indicated as +1 in FIG. 3) and fused a 2180 bp fragment containing 2073 bp upstream of this start site and the 107 bp SAG12-1 5' untranslated region (UTR) to two genes: the reporter gene beta-glucuronidase (GUS) and isopentenyl transferase (IPT), an enzyme catalyzing the rate-limiting step of cytokinin biosynthesis. The promoter fragment begins at point "a" in FIGS. 1, 2 and 3. SEQ ID NO:1 is the sequence of the SAG12-1 promoter, the IPT gene and the NOS-ter sequence.

Detailed Description Paragraph Right (51):
While most studies on the effects of cytokinins on senescence have involved application of exogenous cytokinins, there is evidence that endogenously produced cytokinins are a natural regulator of leaf senescence. Nooden, et al. (Nooden, et al., Plant Physiol. 93:33-39, 1990) have recently studied cytokinin fluxes in soybean leaves that are undergoing natural senescence on the intact plant. During the later stages of seed development that trigger senescence in soybean, the flux of cytokinins from roots to leaves is drastically reduced. Moreover, removal of seed pods reverses senescence and restores the flux of cytokinins to leaves. Further support is provided by transgenic plant studies. The isopentenyl transferase gene (IPT) from the T-DNA of the Agrobacterium tumefaciens Ti plasmid catalyzes the rate-limiting step in the biosynthesis of cytokinins. Transgenic plants that overexpress the IPT gene often exhibit some delay of leaf senescence (Li, et al., Dev. Biol. 153:386-395, 1992; Ooms, et al., Plant Mol. Biol. 17:727-743, 1991; Smart, et al., The Plant Cell 3:647-656, 1991). However, IPT expression in these transgenic plants was not leaf specific and therefore the transgenic plants displayed developmental abnormalities typical of general cytokinin overproduction such as stunted root growth and lack of apical dominance.

Other Reference Publication (35):
Medford, J. I. et al., "Alterations of Endogenous Cytokinins in Transgenic Plants Using a Chimeric Isopentenyl Transferase Gene," The Plant Cell, 1: 403-413 (1989).

Other Reference Publication (44):
Smigocki, A. C. et al., "Cytokinin Content and Tissue Distribution in Plants Transformed by a Reconstructed Isopentenyl Transferase Gene," Plant Mol. Bio., 16: 105-115 (1991).

L1: Entry 6 of 34 File: USPT Dec 11, 2001

DOCUMENT-IDENTIFIER: US 6329570 B1
TITLE: Cotton modification using ovary-tissue transcriptional factors

CLAIMS:

1. A method for increasing the rate of boll production and the number of bolls produced by a transgenic Gossypium hirsutum L. cotton plant, said method comprising the steps of:

growing a transgenic Gossypium hirsutum L. cotton plant to produce mature ovule tissue, wherein cells of said mature ovule tissue comprise in their genome one or more DNA constructs comprising as operably joined components in the direction of transcription, a transcriptional and translational initiation region functional in a cotton ovule integument cell, a DNA sequence encoding an enzyme or polypeptide that increases the biosynthesis of a plant growth hormone that regulates ovary tissue development, and a transcriptional termination region, wherein at least one of said components is heterologous to at least one other of said components, wherein said plant growth hormone is cytokinin, wherein said enzyme is isopentenyl transferase and said DNA sequence is the tmr gene, and wherein said plant expresses said isopentenyl transferase, whereby the rate of boll production and the number of bolls produced by said transgenic Gossypium hirsutum L. cotton plant is increased.

2. A method for modifying the fiber quality of a transgenic cotton plant, said method comprising the steps of:

growing a transgenic cotton plant to produce mature ovule tissue, wherein cells of said mature ovule tissue comprise in their genome one or more DNA constructs comprising as operably joined components in the direction of transcription, a transcriptional and translational initiation region functional in a cotton ovule integument cell, a DNA sequence encoding an enzyme or polypeptide that increases the biosynthesis of a plant growth hormone that regulates ovary tissue development, and a transcriptional termination region, wherein at least one of said components is heterologous to at least one other of said components, wherein said plant growth hormone is cytokinin, wherein said enzyme is isopentenyl transferase and said DNA sequence is the tmr gene, and wherein said plant expresses said isopentenyl transferase in mature ovule tissue whereby fiber from said transgenic cotton plant is modified in a quality characteristic selected from the group consisting of increased fiber length, increased fiber strength, and decreased fiber micronaire.

3. A method for enhancing production of a plant cytokinin in a cotton ovary tissue, said method comprising:

introducing a nucleic acid construct comprising a DNA sequence encoding an isopentenyl transferase into said cotton ovary tissue, wherein said nucleic acid construct comprises as operably joined components a promoter functional in said cotton ovary tissue, said DNA sequence, and a transcriptional termination region, wherein said DNA sequence is other than the native sequence associated with said promoter, whereby production of said plant cytokinin is increased upon expression of said DNA sequence.

20. A method for enhancing production of a plant cytokinin in a mature cotton ovule tissue, said method comprising:

obtaining mature cotton ovule tissue, wherein cells of said mature cotton ovule tissue comprise in their genome one or more nucleic acid constructs comprising as operably joined components a promoter functional in said mature cotton ovule tissue, a DNA sequence encoding an isopentenyl transferase, and a transcriptional termination region, wherein said DNA sequence is other than the native DNA sequence associated with said promoter, whereby production of said plant cytokinin is increased upon expression of said DNA sequence in said mature cotton ovule tissue.

L1: Entry 7 of 34 File: USPT Dec 4, 2001

DOCUMENT-IDENTIFIER: US 6326192 B1
TITLE: Vector for gene transfer into plant allowing optional deletion of marker gene

Brief Summary Paragraph Right (12):
As used therein, the morphological abnormality induction gene is a gene that induces into a tissue of a plant morphologically abnormal differentiation such as a dwarf, destruction of apical dominance, change in pigments, formation of a crown gall, formation of hairy roots, waving of the leaves or the like. It is reported that various morphological abnormality induction genes, such as cytokinin synthesis genes (e.g., ipt (isopentenyltransferase) gene (A. C. Smigocki, L. D. Owens, Proc. Natl. Acad. Sci. USA, 85:5131, 1988)), iaaM (tryptophan monooxygenase) gene (H. J. Klee et al., GENES & DEVELOPMENT, 1:86, 1987), gene 5 (H. Koerber et al., EMBO Journal, 10:3983, 1991), gene 6b (P. J. J. Hooyaas et al., Plant Mol. Biol., 11: 791, 1988), rol genes such as rolA to D (F. F. White et al., J. Bacteriol., 164:33, 1985) and the like, are present in bacteria of the genus Agrobacterium or the like that induce tumor or teratoma in various plants (that is, formation of adventitious shoots or adventitious roots). Furthermore, an iaaL (indoleacetic acid-lysine synthetase) gene in Pseudomonas syringae subsp. savastanoi (A. Spena et al., Mol. Gen. Genet., 227:205, 1991), and homeo box genes, phytochrome genes and the like in various plants are reported.

Detailed Description Paragraph Right (10):
As apparent from FIG. 5, this plasmid contains the ipt gene as a selectable marker gene and the nptII gene and GUS gene as models of the desired gene in the T-DNA region, namely a region to be integrated into the plant chromosome. This ipt gene is a member of tumor-inducing genes possessed by the pathogenic A. tumefaciens, and its introduction into plant cells induces over production of a plant hormone, cytokinin, and differentiation of the resulting cells is directed toward extreme shooty formation. Also, both of the nptII gene which contributes to kanamycin resistance and the GUS gene that produces a blue pigment in cells containing the gene by metabolizing a specific substrate are genes generally used in the analysis of gene expression in plants.

CLAIMS:

7. The vector of claim 6, wherein the cytokinin synthesis gene is the ipt, isopentenyl transferase, gene which is present in the T-DNA of Agrobacterium tumefaciens.

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L1: Entry 7 of 34 File: USPT Dec 4, 2001

US-PAT-NO: 6326192
DOCUMENT-IDENTIFIER: US 6326192 B1

TITLE: Vector for gene transfer into plant allowing optional deletion of marker gene

DATE-ISSUED: December 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sugita; Koichi	Tokyo			JPX
Uesugi; Mikiko	Tokyo			JPX
Matsunaga; Etsuko	Tokyo			JPX
Ebinuma; Hiroyasu	Tokyo			JPX

US-CL-CURRENT: 435/320.1; 435/468, 435/469, 435/69.1, 800/288, 800/290, 800/295

CLAIMS:

What is claimed is:

1. A vector suitable for introducing a gene into a plant, comprising:

a desired gene,

a morphological abnormality induction gene which is capable of functioning as a selectable marker gene, and

a removable DNA element which is removed by expression of a gene catalyzing the removal, said gene being under the control of an inducible promoter,

wherein the morphological abnormality induction gene is present within the removable DNA element, and

wherein the desired gene is positioned such that it is not removed together with the removable DNA element.

2. The vector of claim 1, wherein the inducible promoter which controls the removable DNA element is the promoter of ribulose-bisphosphate carboxylase small subunit gene (rbcS).

3. The vector of claim 1, wherein the inducible promoter which controls the removable DNA element is the promoter of glutathione-S-transferase II system (GST-II) gene.

4. The vector of claim 1, wherein the removable DNA element is derived from a site-specific recombination system.

5. The vector of claim 1, wherein the morphological abnormality induction gene is obtained from a bacteria belonging to the genus Agrobacterium.

6. The vector of claim 1, wherein the morphological abnormality induction gene is a cytokinin synthesis gene.

7. The vector of claim 6, wherein the cytokinin synthesis gene is the ipt, isopentenyl transferase, gene which is present in the T-DNA of Agrobacterium tumefaciens.

8. The vector of claim 1, wherein the morphological abnormality induction gene induces a morphological change selected from the group consisting of abnormal differentiation, destruction of apical dominance, change in pigments, formation of a crown gall, formation of hairy roots and waving of the leaves.

L1: Entry 10 of 34 File: USPT Sep 25, 2001

DOCUMENT-IDENTIFIER: US 6294714 B1
TITLE: Method for introducing a gene into a plant using an adventitious bud redifferentiation gene under the control of a light-inducible promoter as a selectable marker gene, and vector for introducing a gene into a plant using the same

Detailed Description Paragraph Right (4):
It is generally known that a plant hormone cytokinin is taking an important role in the redifferentiation of adventitious shoots. Thus, any one of the cytokinin-related genes can be used as the adventitious shoot redifferentiation gene, including cytokinin synthesis genes such as ipt gene (A. C. Smigocki and L. D. Owens, Proc. Natl. Acad. Sci. USA, 85: 5131 (1988)) derived from Agrobacterium tumefaciens (hereinafter referred to as "A. tumefaciens"), .beta.-glucuronidase gene derived from Escherichia coli which is a gene which activates inactive cytokinin (Morten Joersbo and Finn T. Okkels, Plant Cell Reports, 16: 219-221 (1996)), and CKI1 gene derived from Arabidopsis thaliana which is considered to be a cytokinin receptor gene (Kakimoto T., Science, 274: 982-985 (1996)). In addition to these cytokinin-related genes, rol genes derived from Agrobacterium rhizogenesis (hereinafter referred to as "A. rhizogenesis") induce redifferentiation of adventitious shoots in a hormone-free medium, so that they can also be used as the adventitious shoot redifferentiation gene. Among these genes, the ipt gene is particularly preferred as the selectable marker gene to be used in the present invention because abnormal morphology induced thereafter can be detected easily.

CLAIMS:

3. The method according to claim 1, wherein the cytokinin synthesis gene is an ipt, isopentenyl transferase, gene which is present in a microorganism belonging to the genus Agrobacterium.

7. The vector according to claim 4, wherein the cytokinin synthesis gene is an ipt, isopentenyl transferase, gene which is present in a microorganism belonging to the genus Agrobacterium.

21. The method according to claim 18, wherein the cytokinin synthesis gene is an Ipt, isopentenyl transferase, gene which is present in a microorganism belonging to the genus Agrobacterium.

L1: Entry 11 of 34 File: USPT Jul 31, 2001

DOCUMENT-IDENTIFIER: US 6268552 B1
TITLE: Transgenic seedless fruit comprising AGL or GH3 promoter operably linked to isopentenyl transferase or tryptophan monooxygenase coding DNA

Abstract Paragraph Left (1):
The present invention provides methods and DNA constructs for the genetic engineering of plant cells to produce plants which produce substantially seedless fruit in the absence of exogenous growth factors (auxins or cytokinins) and in the absence of pollination. The substantially seedless fruits produced by the methods described herein are about the size of wildtype seeded fruit (or somewhat larger) and these fruits are equal to or superior to the wildtype seeded fruit with respect to solid content and flavor. The seedless fruits of the present invention are produced in transgenic plants which contain and express auxin or cytokinin biosynthetic genes, e.g., tryptophan oxygenase or isopentenyl transferase coding sequences expressed under the regulatory control of GH3 or AGL promoter sequences directing preferential or tissue specific expression of a downstream gene in the ovaries or developing fruit.

Brief Summary Paragraph Right (6):
It is an object of the present invention to provide compositions and methods for the production of seedless fruit by transgenic means. This is accomplished by the stable introduction into the plant genome of an expression cassette in which a gene encoding an enzyme involved in the biosynthetic pathway of a plant developmental regulator (cytokinin, auxin or gibberellic acid) is operably linked to transcription control sequences which mediate expression of the linked gene in the proper plant part at the appropriate time during development. As specifically exemplified herein, the gene encodes tryptophan oxygenase (iaaM gene) or isopentenyl transferase (ipt gene), and the transcriptional regulatory sequences are those from the GH3 gene, directing tissue-specific expression of a downstream coding sequence in the ovary and developing fruit. The nucleotide sequence of a specifically exemplified GH3 regulatory region from Glycine max is given in SEQ ID NO:1. Other regulatory sequences which mediate selective expression in the ovary and/or developing fruit can be substituted for the GH3 regulatory and promoter sequences, such as the AGL5 or PLE 36 transcriptional control sequences.

Brief Summary Paragraph Right (7):
Also provided by the present invention is an expression cassette can be expressed in plant tissue after the introduction of the cassette into plant tissue. A preferred coding sequence of interest is that for an auxin biosynthetic enzyme, a gibberellin biosynthetic gene or a cytokinin biosynthetic enzyme. The specifically exemplified coding sequence and deduced amino acid sequence for the auxin biosynthetic enzyme (tryptophan oxygenase), are given in SEQ ID NOs:2 and 3, respectively. The specifically exemplified coding sequence and deduced amino acid sequences of the cytokinin biosynthetic enzyme (isopentenyl transferase) are given in SEQ ID NO:4 and 5, respectively. Transcription is regulated by an ovary and developing fruit specific and auxin-inducible transcriptional regulatory sequence (GH3, from Glycine max), as specifically exemplified herein. The AGL5 promoter (See SEQ ID NO:7) (from Arabidopsis thaliana) operably linked to an iaaM or ipt coding sequence, also functions in the present invention. It is understood that other tissue-specific regulatory sequences which direct expression of an operably linked coding sequence in the developing ovary or developing fruit can be substituted for the GH3 sequence disclosed herein.

Brief Summary Paragraph Right (9):
The present invention provides a method for the production of substantially seedless fruit, said method comprising the steps of constructing an expression cassette in which a coding sequence for an auxin biosynthetic anzyme, cytokinin biosynthetic enzyme, or gibberellin biosynthetic enzyme(s) is operably linked to a transcriptional regulatory sequence which transcription regulatory sequence mediates the expression of a downstream coding sequence in a developing ovary and/or fruit, stably incorporating the expression cassette into a plant cell to produce a stably transformed plant cell and regenerating a transgenic plant from the stably transformed plant cell, whereby substantially seedless fruit having a higher solids content than wildtype fruit are produced when the transgenic plant is cultivated. The auxin biosynthetic coding sequence can be a tryptophan oxygenase coding sequence, for example, with an amino acid sequence as given in SEQ ID NO:3. The cytokinin biosynthetic coding sequence can be an isopentenyl transferase coding sequence, for example, having an amino acid sequence as given in SEQ ID NO:5.

Brief Summary Paragraph Right (11):
The present invention further provides a transgenic plant which has been genetically engineered to contain and express an auxin biosynthetic enzyme coding sequence, a cytokinin biosynthetic enzyme coding sequence or gibberellin biosynthetic enzyme's coding sequence under the regulatory control of a tissue-specific transcription regulatory sequence which is selectively expressing in developing ovary tissue or developing fruit tissue. Seeds and embryos containing the genetically engineered DNA construct are within the intended definition of "plant," as are progeny containing the DNA construct. The auxin biosynthetic coding sequence can be a tryptophan oxygenase coding sequence, or the cytokinin biosynthetic coding sequence can be an isopentenyl transferase coding sequence. Transgenic plants described herein comprise a transcriptional regulatory sequence which mediates tissue-specific expression of an operably linked downstream coding sequence. The tissue specific regulatory sequence can be an auxin-inducible transcriptional regulatory sequence including, but not limited to, the GH3 sequences as given in SEQ ID NO:1. The transgenic plant producing substantially seedless fruit (e.g., in the absence of pollination) can be a dicotyledonous plant or a monocotyledonous plant. Such a dicotyledonous plant can be a member of the Solanaceae, including but not limited to, Lycopersicon esculentum, or it can be cucumber, watermelon, tobacco, apple, citrus, pear, fig, currant, muskmelon, squash, cherry, sweet potato, grapes, sugar beet, tea, strawberry, blackberry, blueberry, raspberry, loganberry, rose, chrysanthemum, sweet pepper, eggplant, among others. Substantially seedless cotton can also be produced according to the present invention.

Brief Summary Paragraph Right (12):
Also provided by the present invention is an expression cassette comprising a coding sequence for an auxin, cytokinin or gibberellin biosynthetic enzyme and a transcription regulatory sequence operably linked thereto, which transcription regulatory sequence mediates the preferential expression of the downstream coding sequence in ovary or developing fruit. The auxin biosynthetic enzyme can be tryptophan oxygenase (also called tryptophan dioxygenase) and the cytokinin biosynthetic enzyme can be isopentenyl transferase. The transcriptional regulatory sequence can be any transcriptional regulatory sequence which specifically mediates gene expression in ovary and/or developing fruit.

Detailed Description Paragraph Right (7):
ipt is the mnemonic for the isopentenyl transferase gene, which functions in the biosynthesis of the cytokinin isopentenyladenosine. Plants genetically engineered to contain and express a heterologous ipt gene contained cytokinin levels about ten-fold greater than normal [Li et al. (1992) Devel. Biol. 153:386-395; Li et al. (1994) Plant Science 100:9-14]. As specifically exemplified herein, ipt is from Agrobacterium tumefaciens; the nucleotide and deduced amino acid sequences are given in SEQ ID NOs: 4 and 5, respectively.

Detailed Description Paragraph Right (9):
While the present application specifically exemplifies iaaM and ipt from A. tumefaciens, it is understood by one of ordinary skill in the art that the exemplified iaaM can be replaced by any other plant or bacterial gene whose

expression results in elevated auxin (IAA) levels. Suitable replacements include, but are not limited to, iaaH (from A. tumefaciens or iaaH or iaaM a plant pathogenic pseudomonad) to elevate auxin production. When operably linked to an appropriate tissue specific transcription regulator/promoter. Suitable replacements for the exemplified ipt sequences for increasing cytokinin levels are also within the skill in the art. It is readily understood in the art what procedural modifications are necessary when such substitutions are made. Similarly, any transcription regulatory sequences can replace GH3, provided that an operably linked downstream coding sequence is preferentially or exclusively expressed in the ovary and/or developing fruit. Alternative suitable transcription regulatory sequences include those from genes including, but not limited to, AGL (AGL5 of Arabidopsis thaliana) [Savidge et al. 1995 Plant Cell 7:721-733], 2A11 [Pear et al. (1989) Plant Molec. Biol. 13:639-651], pTPRPF1 from tomato [Salts et al. (1991) Plant Molec. Biol. 17:149-150] and the ovary-specific transcription regulatory sequences from PLE36 from tobacco. The tobacco PLE36 gene is identified by the partial sequence as given in SEQ ID NO:6. The ovary-specific transcription regulatory sequence (in pZ130) from tomato is described in U.S. Pat. No. 5,175,095. Several gibberellin biosynthetic genes [Chiang, et al., (1995) Plant Cell. 7:195-201; Sun and Kamiya, (1994) Plant Cell 6:1509-1518; Xu, et al., (1995) Proc. Natl. Acad. Sci. USA 92:6640-6644]; or genes involved in gibberellin response [Jacobsen et al. (1996), Proc. Natl. Acad. Sci. USA. 93:9292-9296] in flowers and developing fruits are known. Regulated expression of these genes in ovary and/or developing fruit (using tissue specific transcription regulatory sequences as described herein) allows the development of substantially seedless fruit or substantially seedless cotton.

Detailed Description Paragraph Right (12):
The present inventor has produced transgenic tomato plants which produce elevated levels of plant hormones such as auxin (e.g., via a GH3 promoter driving expression of an tryptophan oxygenase coding sequence, GH3-iaaM) and cytokinin (e.g., via GH3-regulated expression of an isopentenyl transferase coding sequence, GH3-ipt) in ovary and developing fruits. The seedless fruits produced by these transgenic tomato plants produced seedless fruits which are significantly larger than wildtype seedless fruits and which, surprisingly, were significantly higher in solids content than wildtype fruits. With normal pollination tomato fruits from the transgenic plants express the GH3-ipt construct also show an increase in size when compared to wildtype seeded fruits.

Detailed Description Paragraph Right (39):
The iaaM and ipt genes were cloned using polymerase chain reaction technology from Agrobacterium tumefaciens (pTich5). The coding sequences and deduced amino acid sequences are provided in SEQ ID NO:2-3 and 4-5, respectively. The product of the iaaM gene, tryptophan oxygenase, converts tryptophan to indoleacteamide. The int gene encodes isopentenyl transferase, an enzyme in the cytokinin biosynthetic pathway.

Detailed Description Paragraph Table (1):
TABLE 1 Comparison of Seedless and Wildtype Tomatoes Average Fruit Weight (% of their wildtype seeded Plant fruits)* Seedless fruits (less than 5 seeds per fruit) wildtype 23% .+-. 16% GH3-iaaM (auxin overproduction) 108% .+-. 18% GH3-ipt (cytokinin overproduction) 117% .+-. 25% Seeded fruits wildtype 100% .+-. 17% GH3-iaaM (auxin overproduction) 138% .+-. 18% GH3-ipt (cytokinin overproduction) 144% .+-. 21% *Thirty to sixty tomato fruits produced from 5 to 10 plants were analyzed for each group.

Other Reference Publication (24):
Smigocki, A.C. and Honeczy, I.J. "Cytokinin effects on tomato seed quality, fruit yield, and ripening in transgenic plants carrying the ipt gene", (1992), HortScience, 27(6):661, # 648 (PS 10).

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L1: Entry 12 of 34 File: USPT May 8, 2001

DOCUMENT-IDENTIFIER: US 6229066 B1
TITLE: Cytokinin oxidase

Brief Summary Paragraph Right (2):
Plant cytokinins are a class of plant hormones which, when combined with auxin, control cell division, promote shoot development from callus, release lateral buds from dormancy, and regulate plant structure and growth in a variety of ways. The naturally occurring active cytokinins in most higher plants are free-base zeatin (6-(4-hydroxy-3-methylbut-trans-2-enylamino)purine) (hereinafter Z), and its 9-riboside (hereinafter ZR). Plant tissues normally contain, therefore, Z, ZR, and smaller amounts of N.sup.6 -(.DELTA..sup.2 -isopentenyl)adenine (hereinafter, iP) derived from biosynthetic precursors. Elevated cytokinin levels are associated with the development of seeds in higher plants, and have been demonstrated to coincide with maximal mitotic activity in the endosperm of developing maize kernels and other cereal grains. Exogenous cytokinin application (via stem injection) has been shown to directly correlate with increased kernel yield in maize. In addition, plant cells transformed with the ipt gene from Agrobacterium tumefaciens (encoding a dimethylallylpyrophosphate:5'-AMP transferase capable of increasing cellular production of Z and ZR) showed increased growth corresponding to an increase in endogenous cytokinin levels upon induction of the enzyme. Thus, given the biosignificance of cytokinins to the growth of plants, the ability to manipulate cytokinin levels in higher plant cells is of great commercial and scientific interest.

Detailed Description Paragraph Right (67):
FIG. 3 illustrates the change in absorbance when the assay is used to measure the cytokinin zeatin. The method is capable of measuring as little as 2 nmol zeatin but, the major advantage of the assay over the prior art is its rapidity. Assays can be preformed in as little as five minutes, significantly faster than radioimmunoassays (MacDonald and Morris, 1985). Further, the method can be integrated in to cytokinin production systems by coupling the ckx1 gene to such cytokinin producing genes as ipt or tzs, in order to assay cytokinin production in vitro.

Other Reference Publication (30):
Motyka, et al., Changes in Cytokinin Content and Cytokinin Oxidase Activity In Response to Derepression of ipt Gene Transcription in Transgenic Tobacco Calli and Plants, Plant Physiol., vol. 112, pp. 1035-1043, 1996.

Other Reference Publication (33):
Wang, et al., Studies of Cytokinin Action and Metabolism Using Tabacco Plants Expressing Either the ipt or the GUS Gene Controlled by a Chalcone Synthase Promoter.II* . ipt and GUS Gene Expression, Cytokinin Levels and Metabolism, Aust. J. Plant Physiol., vol. 24, pp. 673-683, 1997.

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L1: Entry 13 of 34 File: USPT Sep 19, 2000

DOCUMENT-IDENTIFIER: US 6121511 A
TITLE: Production of transgenic impatiens

Detailed Description Paragraph Right (77):
Cytokinins are believed to play a role in leaf senescence because a decline in leaf cytokine levels occurs in senescing leaves, while the external application of cytokinin can delay senescence. Additional evidence for the role of cytokinins was provided by the demonstration that the expression of a gene encoding isopentenyl transferase, the enzyme that catalyzes the rate-limiting step in cytokinin biosynthesis, in transgenic tobacco inhibited leaf senescence. Gan and Amasino, Science 270:1966 (1995). In this study, the expression of the isopentenyl transferase (IPT) gene was specifically targeted to senescing leaves and was negatively autoregulated to prevent overproduction of cytokinins. This was achieved by constructing an expression cassette comprising the IPT gene operatively linked to a promoter of an Arabidopsis senescence-associated gene, designated SAG12.

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L1: Entry 14 of 34 File: USPT May 16, 2000

DOCUMENT-IDENTIFIER: US 6063985 A
TITLE: Chemical inducible promotor used to obtain transgenic plants with a silent marker

Brief Summary Paragraph Right (3):
One marker which is neither an antibiotic nor a herbicide is the ipt gene. This gene encodes isopentenyltransferase which is used in cytokinin synthesis (Barry et al., 1984). Overproduction of cytokinins results in the overproduction of shoots (Barry et al., 1984). This overproduction of shoots can result in a phenotype having a large number of shoots (hereafter "shooty phenotype"). This phenotype can be used as a marker (Ebinuma et al., 1997). A chimeric ipt gene under the control of the cauliflower mosaic virus (CaMV) promoter has been introduced into cells of potato (Ooms et al., 1983), cucumber (Smigocki and Owens, 1989), and several Nicotiana species (Smigocki and Owens, 1988) and these transgenic cells proliferated and exhibited an extreme shooty phenotype and loss of apical dominance in hormone-free medium. Studies have shown that in plants transformed with ipt to overproduce cytokinins, the cytokinins work only locally as a paracrine hormone (Faiss et al., 1997). One problem with the use of ipt as a marker is that the resulting transgenic plants lose apical dominance and are unable to root due to overproduction of cytokinins (Ebinuma et al., 1997).

Brief Summary Paragraph Right (5):
The gene CKI1 was recently identified (Kakimoto, 1996). Overproduction of this gene in plants results in plants which exhibit typical cytokinin responses, including rapid cell division and shoot formation in tissue culture in the absence of exogenous cytokinin (Kakimoto, 1996). The CKI1 gene can be used as a selectable marker in a manner similar to ipt, i.e., the CKI1 gene can be put under the control of a promoter and overexpressed in transgenic plant cells thereby inducing shoot formation in the absence of exogenous plant hormones. Such shoots can be excised thereby obtaining transgenic plants. Such shoots, obtained either from cells transformed with ipt or CKI1, cannot be made to grow normally while the cells are expressing these transgenes. The knotted gene and knotted-like genes are a third group of genes which when overexpressed can lead to ectopic production of adventitious shoots (Chuck et al., 1996; Lincoln et al., 1994). These can be used as selectable markers in the same manner as the ipt and CKI1 genes.

Brief Summary Paragraph Right (11):
By placing the ipt or CKI1 gene or one of the genes of the knotted family under the control of a glucocorticoid inducible promoter within a plasmid and using this to transform cells, growing such cells on MS medium without plant hormones but in the presence or absence of dexamethasone, a synthetic glucocorticoid analog, one can select for transformed cells. Since the cells are grown in the absence of plant hormones, shoots will develop only in cells that are transformed and overproducing cytokinins in the presence of dexamethasone. Nontransformed cells will not produce shoots and cells grown in the absence of dexamethasone will not produce shoots. Teratoma shoots should appear in 2-3 weeks on transformed cells grown in the presence of dexamethasone. These shoots can be excised and placed on MS medium containing indole acetic acid but without dexamethasone. Under this condition, the ipt, CKI1 or knotted gene should no longer be activated and after the cytokinin level has decreased to the normal level the transgenic plants should appear normal and fertile and be able to set seeds.

Detailed Description Paragraph Right (38):
The gene CKI 1 was recently identified (Kakimoto, 1996). Overproduction of this gene in plants results in plants which exhibit typical cytokinin responses, including rapid cell division and shoot formation in tissue culture in the absence of exogenous cytokinin (Kakimoto, 1996). The CKI1 gene can be used as a selectable marker in a manner similar to ipt. A system in which plants are transformed with CKI1 which is regulatable will allow one to produce plants which will produce shoots and then to use the shoots to regenerate normal plants by shutting off the expression of the gene in the shoots. The present invention is one method of accomplishing such a result. A CKI1 gene is placed in a vector such that it is under the control of the GVG system described above. Plants which have been transformed with this vector will grow normally in the absence of an inducer of the GVG system. Explants, e.g., leaf disks, of these transgenic plants can be treated with an inducer (e.g., dexamethasone) to stimulate the development of adventitious shoots. The developed shoots can be excised and transferred to a medium without the inducer. These shoots will then develop normally to yield transgenic plants. The vectors used may include other genes of interest, which are not under the control of the GVG system, which it is desired to transform into the plants. The selected plants will include the gene of interest and will have been selected without the requirement of using an antibiotic selectable marker. As in Examples 3 and 12, the selection is performed on MBC plates for shoots which are then transferred to MBCI for rooting.

Other Reference Publication (18):
Faiss, M. et al. "Conditional transgenic expression of the ipt gene indicates a function for cytokinins in paracrine signaling in whole tobacco plants", The Plant Journal 12:401-415.

Other Reference Publication (19):
Smigocki, A.C. (1991). "Cytokinin content and tissue distribution in plants transformed by a reconstructed isopentenyl transferase gene", Plant Molecular Biology 16:105-115.

Other Reference Publication (21):
Thomas, J.C. et al. (1995). "Light-induced expression of ipt from Agrobacterium tumefaciens results in cytokinin accumulation and osmotic stress symptoms in transgenic tobacco ", Plant Molecular Biology 27:225-235 and Erratum.

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L1: Entry 16 of 34 File: USPT Feb 1, 2000

DOCUMENT-IDENTIFIER: US 6020540 A
TITLE: Gene encoding endochitinase

Other Reference Publication (36):
Smigocki et al., "Cytokinin-Mediated Insect Resistance in Nicotiana plants Transformed With the ipt Gene," Plant Molecular Biology, 23:325-335 (1993).

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L1: Entry 18 of 34 File: USPT Aug 11, 1998

DOCUMENT-IDENTIFIER: US 5792934 A
TITLE: Enhanced insect resistance in plants genetically engineered with a plant hormone gene involved in cytokinin biosynthesis

Brief Summary Paragraph Right (10):
We have discovered that expression in plants of a bacterial gene encoding the first enzyme in the cytokinin biosynthetic pathway, isopentenyl transferase (ipt), reconstructed to allow for wound regulated expression in plants, confers enhanced resistance to insect attack. The ipt gene was fused to a promoter (control region) from a potato gene originally isolated from wounded tubers. Expression of the reconstructed gene was demonstrated in leaves of transgenic plants following mechanical wounding or insect feeding.

Detailed Description Paragraph Right (2):
In order to avoid uptake and metabolism associated with exogenous hormone applications, plants were genetically engineered with a wound-inducible cytokinin biosynthesis gene, the isopentenyl transferase (ipt) gene isolated from Agrobacterium tumefaciens (A. tumefaciens). While any effective wound-inducible promoter is acceptable, fusion of the ipt gene with a promoter from the potato proteinase inhibitor II (PI-II) gene known to be induced in the leaves of transgenic plants by mechanical wounding and/or insect chewing is preferred. The chimeric gene was introduced into plants for expression in tissues such as leaves.

Detailed Description Paragraph Right (14):
A chimeric cytokinin gene was constructed by fusing the bacterial ipt gene to the 5' regulatory region of the potato PI-IIK gene as described supra. The 0.8 kb EcoRI/BamHI fragment was fused through its 5' untranslated region to the coding region of the ipt gene from pTiB6S3. An EcoRI/HindIII pPI-II-ipt fragment was subcloned into a binary plant transformation vector pKYLX71 and mobilized into A. tumefaciens strain EHA101 (pEHA101) for infection and transformation of Nicotiana plumbaginifolia (N. plumbaginifolia) leaf disks. A binary vector carrying a truncated ipt (t-ipt) gene without a functional promoter was used as a negative control for transformation experiments.

Detailed Description Paragraph Right (17):
Fully expanded leaves on PI-II-ipt plants were used in leaf disk and whole leaf assays. Leaf disks 1.45 cm.sup.2 were cut with a cork borer and placed in a 60.times.15 mm petri dish on filter paper wet with water or water plus the cytokinin zeatin at 10 and 20 .mu.g/ml in 1 or 2% methanol, respectively (Sigma). Petioles of detached leaves were submerged in sealed vials containing water or water plus zeatin as above and placed in large petri dishes lined with filter paper. Surface areas of leaf disks and leaves were measured before and after insect feeding with a surface area meter (LI-COR, Inc., Lincoln, Nebr.). Data in FIGS. 4 and 5 was analyzed by analysis of variance and means were compared using the least significant difference test.

Detailed Description Paragraph Right (27):
The concentration of zeatin and N.sup.9 substituted zeatin derivatives, major cytokinins produced in tissues transformed with the PI-II-ipt gene, were determined using analytical kits (De Danske Sukkerfabrikker, Copenhagen; IDETEK, Inc., San Bruno, Calif.). Plant tissues were extracted in 80% methanol overnight at -80.degree. C. All extracts were purified on columns packed with anti-zeatinriboside

antibodies, and eluted cytokinins were quantified by ELISA. To determine the percent recovery, control samples were spiked with 1000 to 2000 pmoles of zeatinriboside or zeatin (Sigma). For each plant, 3 to 4 samples were analyzed.

Detailed Description Paragraph Right (29):
When the M. sexta larvae were fed leaf disks or whole leaves from flowering PI-II-ipt plants, they consumed significantly less of the plant material than larvae feeding on leaves from control plants (FIG. 4 and 5; Table 1). A corresponding decrease in larval weight gain was also observed. At the whole plant level, less PI-II-ipt leaves were consumed but no significant differences in larval weights were recorded (FIG. 6). It appears that sufficient feeding material is provided by younger leaves and the abundance of lateral buds released during reproductive stage of growth of the PI-II-ipt plants (Smigocki, unpublished). On normal plants, newly emerging and younger leaves have been reported to be preferred by these insects (Thornburg, supra). We find lower ipt transcript levels and cytokinin concentrations in younger leaves of transgenic PI-II-ipt plants (FIG. 3).

Detailed Description Paragraph Right (31):
Cytokinin levels were elevated by approximately 70-fold in comparison to controls. By boosting the endogenous cytokinin levels with exogenous applications of zeatin, enhanced resistance to the tobacco hornworm was induced in leaves from preflowering plants (Table 1). In addition, a higher degree of resistance was also observed when leaves from flowering PI-II-ipt plants were supplied with zeatin. This response to zeatin was not observed with leaves form normal, untransformed plants and may reflect problems associated with sufficient uptake, metabolism, or compartmentalization of exogenously supplied cytokinins necessary to retard hornworm feeding. The effects of exogenous zeatin applications on delaying the green peach aphid development were more dramatic in that most of the nymphs did not reach maturity. The green peach aphid tolerance to cytokinin effects appears to be lower than that of the tobacco hornworm and may be directly related to their much reduced overall body mass. Zeatin application results suggest that use of a stronger constitutive promoter to express the cytokinin gene would increase endogenous cytokinin concentrations to even higher levels than those in PI-II-ipt plants and result in better insect control. It has previously been reported that overexpression of the ipt gene with the 35S promoter from cauliflower mosaic virus increases zeatin levels up to several hundred fold in N. plumbaginifolia (Smigocki and Owens, 1989). However, the constitutive overproduction of cytokinin in plant cells inhibits regeneration of whole plants. Temporal and tissue specific expression allows for regeneration of plants and is preferred for expression of a foreign gene as for example in leaves upon insect feeding.

L1: Entry 21 of 34 File: USPT Jun 16, 1998

DOCUMENT-IDENTIFIER: US 5767374 A
TITLE: Plants with modified flowers seeds or embryos

Detailed Description Paragraph Right (5):
Other examples of female-sterility DNAs encode enzymes which catalyze the synthesis of phytohormones, such as: isopentenyl transferase which is an enzyme that catalyzes the first step in cytokinin biosynthesis and is encoded by gene 4 of Agrobacterium T-DNA; or one or both of the enzymes involved in the synthesis of auxin and encoded by gene 1 and gene 2 of Agrobacterium T-DNA. Yet other examples of female-sterility DNAs encode: glucanases; lipases such as phospholipase A.sub.2 (Verheij et al (1981) Rev. Biochem. Pharmacol. 91, 92-203); lipid peroxidases; or plant cell wall inhibitors. Still other examples of female-sterility DNAs encode proteins toxic to plants cells, such as a bacterial toxin (e.g., the A-fragment of diphtheria toxin or botulin).

Other Reference Publication (5):
Medford et al., "Alterations of Endogenous Cytokinins in Transgenic Plants Using a Chimeric Isopentenyl Transferase Gene", The Plant Cell, vol. 1:403-413, Apr. 1989.

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Search Results - Record(s) 21 through 30 of 34 returned.

☐ 21. Document ID: US 5767374 A

L1: Entry 21 of 34 File: USPT Jun 16, 1998

US-PAT-NO: 5767374
DOCUMENT-IDENTIFIER: US 5767374 A

TITLE: Plants with modified flowers seeds or embryos

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 22. Document ID: US 5723763 A

L1: Entry 22 of 34 File: USPT Mar 3, 1998

US-PAT-NO: 5723763
DOCUMENT-IDENTIFIER: US 5723763 A

TITLE: Plants with modified flowers

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 23. Document ID: US 5689042 A

L1: Entry 23 of 34 File: USPT Nov 18, 1997

US-PAT-NO: 5689042
DOCUMENT-IDENTIFIER: US 5689042 A

TITLE: Transgenic plants with altered senescence characteristics

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 24. Document ID: US 5689041 A

L1: Entry 24 of 34 File: USPT Nov 18, 1997

US-PAT-NO: 5689041
DOCUMENT-IDENTIFIER: US 5689041 A

TITLE: Plants modified with barstar for fertility restoration

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 25. Document ID: US 5652354 A

L1: Entry 25 of 34 File: USPT Jul 29, 1997

US-PAT-NO: 5652354
DOCUMENT-IDENTIFIER: US 5652354 A

TITLE: Stamen-selective promoters

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 26. Document ID: US 5633441 A

L1: Entry 26 of 34 File: USPT May 27, 1997

US-PAT-NO: 5633441
DOCUMENT-IDENTIFIER: US 5633441 A

TITLE: Plants with genetic female sterility

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 27. Document ID: US 5496732 A

L1: Entry 27 of 34 File: USPT Mar 5, 1996

US-PAT-NO: 5496732
DOCUMENT-IDENTIFIER: US 5496732 A

TITLE: Enhanced insect resistance in plants genetically engineered with a plant hormone gene involved in cytokinin biosynthesis

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 28. Document ID: US 5177307 A

L1: Entry 28 of 34 File: USPT Jan 5, 1993

US-PAT-NO: 5177307
DOCUMENT-IDENTIFIER: US 5177307 A

TITLE: Compositions and methods for modulation of endogenous cytokinin levels

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Search Results - Record(s) 1 through 10 of 34 returned.

☐ 1. Document ID: US 20010049120 A1

L1: Entry 1 of 34 File: PGPB Dec 6, 2001

PGPUB-DOCUMENT-NUMBER: 20010049120
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010049120 A1

TITLE: EXPRESSION VECTOR FOR CONSISTENT CELLULAR EXPRESSION OF THE TET ON REPRESSOR IN MULTIPLE CELL TYPES

PUBLICATION-DATE: December 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
FISHER, PAUL B.	SCARSDALE	NY	US	
GOPALKRISHNAN, RAHUL	NEW YORK	NY	US	

US-CL-CURRENT: 435/69.1; 435/320.1, 435/375, 435/455

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 20010029618 A1

L1: Entry 2 of 34 File: PGPB Oct 11, 2001

PGPUB-DOCUMENT-NUMBER: 20010029618
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010029618 A1

TITLE: Transgenic maize with increased mannitol content

PUBLICATION-DATE: October 11, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Anderson, Paul C.	West Des Moines	IA	US	
Chomet, Paul S.	Mystic	CT	US	
Griffor, Matthew C.	North Stonington	CT	US	
Kriz, Alan L.	Gales Ferry	CT	US	

US-CL-CURRENT: 800/278; 435/320.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 3. Document ID: US 6372967 B1

L1: Entry 3 of 34 File: USPT Apr 16, 2002

US-PAT-NO: 6372967
DOCUMENT-IDENTIFIER: US 6372967 B1

TITLE: Plants with modified stamen cells

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC
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☐ 4. Document ID: US 6359197 B1

L1: Entry 4 of 34 File: USPT Mar 19, 2002

US-PAT-NO: 6359197
DOCUMENT-IDENTIFIER: US 6359197 B1

TITLE: Transgenic plants with altered senescence characteristics

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC
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☐ 5. Document ID: US 6344598 B1

L1: Entry 5 of 34 File: USPT Feb 5, 2002

US-PAT-NO: 6344598
DOCUMENT-IDENTIFIER: US 6344598 B1

TITLE: Plants with modified stamen cells

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC
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☐ 6. Document ID: US 6329570 B1

L1: Entry 6 of 34 File: USPT Dec 11, 2001

US-PAT-NO: 6329570
DOCUMENT-IDENTIFIER: US 6329570 B1

TITLE: Cotton modification using ovary-tissue transcriptional factors

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 7. Document ID: US 6326192 B1

L1: Entry 7 of 34 File: USPT Dec 4, 2001

US-PAT-NO: 6326192
DOCUMENT-IDENTIFIER: US 6326192 B1

TITLE: Vector for gene transfer into plant allowing optional deletion of marker gene

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 8. Document ID: US 6320097 B1

L1: Entry 8 of 34 File: USPT Nov 20, 2001

US-PAT-NO: 6320097
DOCUMENT-IDENTIFIER: US 6320097 B1

TITLE: Plants with modified stamen cells

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 9. Document ID: US 6316699 B1

L1: Entry 9 of 34 File: USPT Nov 13, 2001

US-PAT-NO: 6316699
DOCUMENT-IDENTIFIER: US 6316699 B1

TITLE: Plants with modified stamen cells

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 10. Document ID: US 6294714 B1

L1: Entry 10 of 34 File: USPT Sep 25, 2001

US-PAT-NO: 6294714
DOCUMENT-IDENTIFIER: US 6294714 B1

TITLE: Method for introducing a gene into a plant using an adventitious bud redifferentiation gene under the control of a light-inducible promoter as a selectable marker gene, and vector for introducing a gene into a plant using the same

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

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Term	Documents
CYTOKININ.DWPI,EPAB,JPAB,USPT,PGPB.	1492
CYTOKININS.DWPI,EPAB,JPAB,USPT,PGPB.	957
IPT.DWPI,EPAB,JPAB,USPT,PGPB.	582
IPTS.DWPI,EPAB,JPAB,USPT,PGPB.	40
ISOPENTENYL.DWPI,EPAB,JPAB,USPT,PGPB.	803
ISOPENTENYLS	0
TRANSFERASE.DWPI,EPAB,JPAB,USPT,PGPB.	16920
TRANSFERASES.DWPI,EPAB,JPAB,USPT,PGPB.	1685
(((ISOPENTENYL ADJ TRANSFERASE) OR IPT) SAME CYTOKININ).USPT,PGPB,JPAB,EPAB,DWPI.	34
(CYTOKININ SAME (IPT OR ISOPENTENYL TRANSFERASE)).USPT,PGPB,JPAB,EPAB,DWPI.	34

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Search Results - Record(s) 11 through 20 of 34 returned.

☐ 11. Document ID: US 6268552 B1

L1: Entry 11 of 34 File: USPT Jul 31, 2001

US-PAT-NO: 6268552
DOCUMENT-IDENTIFIER: US 6268552 B1

TITLE: Transgenic seedless fruit comprising AGL or GH3 promoter operably linked to isopentenyl transferase or tryptophan monooxygenase coding DNA

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 12. Document ID: US 6229066 B1

L1: Entry 12 of 34 File: USPT May 8, 2001

US-PAT-NO: 6229066
DOCUMENT-IDENTIFIER: US 6229066 B1

TITLE: Cytokinin oxidase

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 13. Document ID: US 6121511 A

L1: Entry 13 of 34 File: USPT Sep 19, 2000

US-PAT-NO: 6121511
DOCUMENT-IDENTIFIER: US 6121511 A

TITLE: Production of transgenic impatiens

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 14. Document ID: US 6063985 A

L1: Entry 14 of 34 File: USPT May 16, 2000

US-PAT-NO: 6063985
DOCUMENT-IDENTIFIER: US 6063985 A

TITLE: Chemical inducible promotor used to obtain transgenic plants with a silent marker

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 15. Document ID: US 6046382 A

L1: Entry 15 of 34 File: USPT Apr 4, 2000

US-PAT-NO: 6046382
DOCUMENT-IDENTIFIER: US 6046382 A

TITLE: Plants with modified flowers

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 16. Document ID: US 6020540 A

L1: Entry 16 of 34 File: USPT Feb 1, 2000

US-PAT-NO: 6020540
DOCUMENT-IDENTIFIER: US 6020540 A

TITLE: Gene encoding endochitinase

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 17. Document ID: US 5965791 A

L1: Entry 17 of 34 File: USPT Oct 12, 1999

US-PAT-NO: 5965791
DOCUMENT-IDENTIFIER: US 5965791 A

TITLE: Vector for introducing a gene into a plant, and methods for producing transgenic plants and multitudinously introducing genes into a plant using the vector

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 18. Document ID: US 5792934 A

L1: Entry 18 of 34 File: USPT Aug 11, 1998

US-PAT-NO: 5792934
DOCUMENT-IDENTIFIER: US 5792934 A

TITLE: Enhanced insect resistance in plants genetically engineered with a plant

hormone gene involved in cytokinin biosynthesis

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 19. Document ID: US 5792929 A

L1: Entry 19 of 34 File: USPT Aug 11, 1998

US-PAT-NO: 5792929
DOCUMENT-IDENTIFIER: US 5792929 A

TITLE: Plants with modified flowers

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 20. Document ID: US 5780709 A

L1: Entry 20 of 34 File: USPT Jul 14, 1998

US-PAT-NO: 5780709
DOCUMENT-IDENTIFIER: US 5780709 A

TITLE: Transgenic maize with increased mannitol content

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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Term	Documents
CYTOKININ.DWPI,EPAB,JPAB,USPT,PGPB.	1492
CYTOKININS.DWPI,EPAB,JPAB,USPT,PGPB.	957
IPT.DWPI,EPAB,JPAB,USPT,PGPB.	582
IPTS.DWPI,EPAB,JPAB,USPT,PGPB.	40
ISOPENTENYL.DWPI,EPAB,JPAB,USPT,PGPB.	803
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TRANSFERASES.DWPI,EPAB,JPAB,USPT,PGPB.	1685
(((ISOPENTENYL ADJ TRANSFERASE) OR IPT) SAME CYTOKININ).USPT,PGPB,JPAB,EPAB,DWPI.	34
(CYTOKININ SAME (IPT OR ISOPENTENYL TRANSFERASE)).USPT,PGPB,JPAB,EPAB,DWPI.	34

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